

Title (en)

CONTROL METHOD AND CONTROL DEVICE OF CONTROL VALVE USED IN INDUCTION SYSTEM OF ENGINE

Title (de)

STEUERVERFAHREN UND STEUERVORRICHTUNG FÜR EIN IM EINLASSSYSTEM EINES MOTORS VERWENDETES STEUERVERTIL

Title (fr)

PROCÉDÉ DE COMMANDE ET DISPOSITIF DE COMMANDE D'UNE SOUPAPE DE COMMANDE UTILISÉE DANS UN SYSTÈME D'INDUCTION D'UN MOTEUR

Publication

**EP 2444642 B1 20191225 (EN)**

Application

**EP 11736856 A 20110113**

Priority

- JP 2011050473 W 20110113
- JP 2010015900 A 20100127

Abstract (en)

[origin: EP2444642A1] A control device of a control valve used for an intake air-gas system of an engine, the device including, but not limited to: the control valve which is an intake air throttle valve provided in the intake air-gas system provided in the intake air-gas system of the engine to control the flow rate of intake air to the engine, or an EGR valve provided in the intake air-gas system of the engine to control the flow rate of EGR gas to the engine; and a control unit which determines a target opening of the control valve in response to the operation conditions of the engine, and controls the opening of the control valve so that the opening conforms with the target opening, wherein the control unit is configured so that, in a case where the target opening is maintained at a same level during over a fixed duration, the target opening is changed, in time, from the target opening which is determined in response to the operation conditions of the engine and controls the opening of the control valve, in order to prevent the control valve from being out of order as well as in order to detect a failure of the control valve.

IPC 8 full level

**F02D 41/00** (2006.01); **F02D 35/00** (2006.01); **F02D 41/14** (2006.01); **F02D 41/22** (2006.01); **F02M 26/05** (2016.01); **F02M 26/22** (2016.01)

CPC (source: EP KR US)

**F02D 9/02** (2013.01 - KR); **F02D 21/08** (2013.01 - KR); **F02D 35/0007** (2013.01 - EP US); **F02D 41/0002** (2013.01 - EP US); **F02D 41/0077** (2013.01 - EP US); **F02D 41/14** (2013.01 - KR); **F02D 41/22** (2013.01 - KR); **F02D 41/221** (2013.01 - EP US); **F02D 41/0052** (2013.01 - EP US); **F02D 2041/1409** (2013.01 - EP US); **F02M 26/05** (2016.02 - EP US); **F02M 26/22** (2016.02 - EP US); **F02M 26/23** (2016.02 - EP US); **Y02T 10/40** (2013.01 - EP US)

Citation (examination)

- US 2008249698 A1 20081009 - YOKOYAMA JIN [JP], et al
- JP 2008063964 A 20080321 - DENSO CORP

Cited by

CN103775228A; EP2952729A4

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 2444642 A1 20120425**; **EP 2444642 A4 20151118**; **EP 2444642 B1 20191225**; JP 2011153578 A 20110811; JP 5393506 B2 20140122; KR 101361907 B1 20140212; KR 20120024948 A 20120314; US 2012130623 A1 20120524; US 9500148 B2 20161122; WO 2011093141 A1 20110804

DOCDB simple family (application)

**EP 11736856 A 20110113**; JP 2010015900 A 20100127; JP 2011050473 W 20110113; KR 20127000432 A 20110113; US 201113388156 A 20110113